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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,397	08/14/2001	Xiangheng Yang	N0099US	9154

7590 12/30/2003

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EXAMINER

NGUYEN, THU V

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 12/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/929,397

Applicant(s)

YANG, XIANGHENG

Examiner

Thu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-13 and 15-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-13 and 21 is/are allowed.
- 6) ☐ Claim(s) 18-20 is/are rejected.
- 7) ☒ Claim(s) 15-17 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) g.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

The amendment filed on October 14, 2003 has been entered. By this amendment, claims 1 and 14 have been canceled, claims 21-22 have been added and claims 2-13, 15-22 are now pending in the application.

### *Claim Objections*

1. Claim 22 is objected to because of the following informalities:

In claim 22, lines 4-5, the claimed “the method comprising” should be corrected to “the program comprising”.

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 18, lines 37-38 (last two lines of the claim), the claimed “a minimum rotation angle in a selected direction” is ambiguous because the “minimum rotation angle” is defined only when the direction of rotation is specifically defined. The rotation angle can be minimal in one rotation direction but will become maximum in the opposite rotation direction. The claim

must at least state the relationship between the direction of tracing of the links and the direction of the rotation angle so that the link having minimum rotation angle be identified, otherwise the wrong link (the link that should not be a part of the intersection boundary) be selected, and the intersection boundary will not be accurately formed. Since the selected direction of rotation is taught in the newly added claims 21 and 22 (last two limitations), for further examining purpose, the “selected direction” in claim 18 line 38 is interpreted as the direction of rotation stated in claim 21 (last two paragraphs).

Claims 19-20 are rejected as being dependent on the rejected base claim 18.

*Allowable Subject Matter*

3. Claims 2-13, and 21 are allowed.
4. Claims 15-20, and 22 would be allowable if rewritten or amended to overcome the claim objection or the rejections under 35 U.S.C. 112, second paragraph, set forth in this Office action.
5. The following is an examiner’s statement of reasons for allowance:

Prior arts of record does not disclose a method and a program for determining a polygonal intersection of a first and second polygon that have the same known rotational direction. In the method, a first portion of the boundary of the first polygon that is located inside the second polygon is determined; if the leading end of the current known polygonal intersection is connected to two other links, the link that forms a minimum rotation angle in a rotational direction is selected as a subsequent portion of the boundary of the polygonal intersection; the rotational direction is selected as the same rotational direction with the current known portion of

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the polygonal intersection when the direction of the traversal of the current known portion of the boundary of the polygonal intersection is opposite the known rotational direction; and the rotational direction is selected as opposite rotational direction with the current known portion of the boundary of the polygonal intersection if the direction of traversal of the current known portion of the boundary of the polygonal intersection is the same as the known rotational direction.

***Response to Arguments***

Claims 2-17, 21-22 are allowed over prior arts. Applicant fails to address the 112 2<sup>nd</sup> paragraph rejection in section 2b of the final rejection on October 14, 2003. The 112 2<sup>nd</sup> paragraph rejection on claim 18 is therefore repeated herein. Claims 18-20 are also allowed over cited prior arts if the 112 2<sup>nd</sup> paragraph rejection is overcome.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 305-7687, (for formal communications intended for entry)

**Or:**

(703) 305-7687 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")


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Hand-delivered responses should be brought to Crystal Park V, 2451  
Crystal Drive, Arlington. VA., Seventh Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to Thu Nguyen whose telephone number is (703) 306-9130. The  
examiner can normally be reached on Monday-Thursday from 8:00 am to 6:00 pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's  
supervisor, William Cuchlinski, can be reached on (703) 308-3873. The fax phone number for  
this Group is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the Group receptionist whose telephone number is (703) 308-1111.

  
**THU V. NGUYEN**  
**PRIMARY EXAMINER**

December 17, 2003